

REMARKS

Claims 1-15 are pending in the present application. The Office has rejected claims 1-15 under 35 U.S.C. § 112 first paragraph as allegedly being indefinite. The Office has rejected claims 1-15 under 35 U.S.C. § 103(a) as allegedly being unpatentable over article S. Masuda et al., “Novel Plasma Technologies-PPCP and SPCP for Control of Gaseous Pollutants and Air Toxics”, Journal of Electrostatics, Vol. 34, No. 4, May 1995, pp. 415-438 (“Masuda”) optionally in view of USP No. 5,861,123 to Schiffner (“Schiffner”) and USP No. 4,181,675 to Makin et al. (“Makin”). The Office has rejected claims 1-15 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sobacchi et al., “Experimental assessment...” (“Sobacchi”) in view of Makin.

INVENTOR NAME

The Office is requested to correct the name of the lead inventor from Alexander Gutson to Alexander Gutsol. The last name as printed on the face of the application is a typographical error made by the Patent Office. Please note that Alexander Gutsol is properly listed and executed in the declaration document.

SECTION 112 REJECTIONS

The Office has rejected claims 1-15 under 35 U.S.C. § 112 first paragraph as allegedly not being enabled by the specification. The Applicants note that the specification does provide enablement for the limitations in the claims, as the specification goes into a general discussion of Henry’ Law, which provides the information necessary to give one of ordinary skill in the art the disclosure necessary to practice the invention without undue experimentation, as is provided for by the guidelines and the law. Although Applicants do not necessarily agree, they have removed the limitation of “90% or more” from claims 1, 6 and 10. The Applicants request reconsideration and withdraw of the rejections to claims 1-15.

SECTION 103 REJECTIONS

The Office has rejected claims 1-15 under two alleged combinations: Masuda in view of Schiffner or Makin; and Sobacchi in view of Makin. Because neither combination, when viewed in light of each individual reference or in light of the combination, disclose all recitations of the claims, neither combination renders claims 1-15 unpatentable.

Masuda in view of Schiffner or Makin

Exemplary claim 1 recites, in part:

*...providing an influent spray of water droplets or water film;
passing an exhaust gas stream through a pulsed corona discharge chamber in the presence of the influent spray of water droplets or water film to form one or more oxidation products that dissolve in the water spray droplets or film thereby creating an effluent water stream and an effluent gas stream...*

Thus, claim 1 recites having an influent spray of water droplets or water film and passing an exhaust gas stream through a pulsed corona discharge *in the presence* of the influent spray of water droplets or water film. The Office alleges that Masuda discloses the recitations of the corona discharge and the water film, but Masuda clearly does not.

The Office cites “item (4)(d)” on page 419 of Masuda to allege that Masuda discloses the influent spray of water droplets or water film. As disclosed by Masuda, the water is not an influent stream but is a reaction byproduct of the chemical processes creating the reaction products in the reactor. (Masuda: page 419; “the water film formed on the reactor to absorb the reaction products”). Thus, the only way that the water film is formed is if the chemical influent gas stream contains specific hydrocarbon and oxidized compounds in a stoichiometric ratio to create water. If those specific conditions are not met, no water film will be formed. Further, because the water is generated as a result of a byproduct reaction, Masuda clearly does not disclose that the water is an *influent* spray of water droplets or water film. Therefore, Masuda cannot be relied upon to disclose the recitation of the influent spray of water or water film.

The Office admits that Schiffner fails to disclose the recitation of the influent spray of water droplets or water film and alleges that Makin does. Based upon a best understanding of the disclosure of Makin, it does not.

The portion of Makin relied upon by the Office discloses a means of scrubbing a methanol vapor chemical using water. The process disclosed by Makin does not use plasma nor does it disclose the recitation of *passing an exhaust gas stream through a pulsed corona discharge chamber in the presence of the influent spray of water droplets or water film*. In other words, Makin fails to disclose the use of water in the presence of the plasma, and as discussed below, Masuda specifically teaches away from that combination.

Additionally, it should be noted that one of ordinary skill in the art would not combine the teachings of Makin and Masuda, as Masuda teaches away from the combination of passing an exhaust gas stream in the presence of water droplets or a water film, as recited in claim 1. In the Abstract, Masuda discloses, “*PPCP and SPCP are completely dry processes.*” In other words, Masuda is disclosing a processes in which water is not an influent stream and the exhaust gas stream is not passed into the corona discharge in the presence of water. Both Masuda and Makin disclose processes in which water is used in a separate process in a manner different than the recitations of claim 1.

For at least these reasons, the Applicants assert that Masuda, Schiffner, and Makin, when viewed separately or in combination with each other, fail to disclose the invention as presently recited in any of the claims.

Sobacchi in view of Makin

The Office has rejected claims 1-15 as allegedly being unpatentable over Sobacchi in view of Makin. The Office admits that Sobacchi can only be used as a reference in claims 1, 6 and 10 for the claim recitation of “*about 90 percent or more*”. (Office Action: pg. 5; “It should be noted that Sobacchi is available as a reference under 35 U.S.C. § 102(b) for all claims because there is no support for the following limitations in the provisional application...”). Although Applicants do not necessarily agree, they have amended and removed this recitation, and hence Sobacchi is not a proper reference and should be removed. Further, the Applicants disagree with the Office that certain claim recitations are not supported in the specification of the provisional application.

Even so, to further prosecution, and not as an admission of Sobacchi as a reference within 102(b), Sobacchi in combination with Makin fails to disclose the recitations of claims 1-15. The portion of Makin relied upon by the Office discloses a means of scrubbing a

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methanol vapor chemical using water. The process disclosed by Makin does not use plasma nor does it disclose the recitation of *passing an exhaust gas stream through a pulsed corona discharge chamber in the presence of the influent spray of water droplets or water film*. In other words, Makin fails to disclose the use of water in the presence of the plasma. Further, there is no *influent spray of water droplets or water film*, as Makin is disclosing the introduction of the water in a scrubber, not in the presence of the plasma.

For at least these reasons, the Applicants assert that Sobacchi in view of Makin fails to disclose all recitations of claims 1, 6 and 10. By reason of their dependence upon an allowable base claim, it follows that the dependent claims are also allowable.

The Applicants request reconsideration and withdraw of the rejections to claims 1-15 under § 103.

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CONCLUSION

By the remarks and the amendments provided herein, the Applicant respectfully submits that the Office Action mailed August 21, 2008 has been traversed and that the application is in condition for allowance. If the Examiner has any concerns regarding the response provided herein, or wishes to discuss the response further, the Examiner is invited to contact the undersigned attorney.

Respectfully submitted,

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